SEQUENCE LISTING

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Lin, Ying-Chi
Maruyama, Toshiaki

<120> ENGINEERED TEMPLATES AND THEIR USE IN SINGLE PRIMER AMPLIFICATION

<130> 1087-21 CIP

<140> US 10/737,252
<141> 2003-12-15

<150> US 10/251,085
<151> 2002-09-19

<150> US 60/323,455
<151> 2001-09-19

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Tyr Trp Gly Gln
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Trp Gly Gln

<210> 9
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<400> 79
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gacgaccggc taccaagagg acag 24

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<400> 83

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ser Tyr
20 25 30

Thr Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ser Tyr Ile Ser Thr Thr Ser Ser Ser Ile Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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Ala Arg Val Phe Phe Val Glu Gly Ser Tyr Trp Ser Phe Asp Leu Trp
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Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120


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<400>  84

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Thr Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45


Ser Tyr Ile Ser Thr Thr Ser Ser Ser Ile Tyr Tyr Ala Asp Ser Val
    50                  55                  60


Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Ala Arg Val Phe Phe Val Glu Gly Ser Tyr Trp Ser Phe Asp Leu Trp
            100                 105                 110


Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210>  85
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<400>  85

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ser Tyr
            20                  25                  30

Thr Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Ser Tyr Ile Ser Thr Thr Ser Ser Ser Ile Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Val Phe Phe Val Glu Gly Ser Tyr Trp Ser Phe Asp Leu Trp
            100                 105                 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<213> human

<400> 86

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Ser Tyr
            20                  25                  30

Thr Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35                  40                  45

Ser Tyr Ile Ser Thr Thr Ser Ser Ser Ile Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
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                85                  90                  95

Ala Arg Val Phe Phe Val Glu Gly Ser Tyr Trp Ser Phe Asp Leu Trp
            100                 105                 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 87
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<213> human

<400> 87

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Leu Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Asn Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65                  70                  75                  80

Leu Glu Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Lys Tyr Tyr Cys
                85                  90                  95

Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe Phe Phe Asp Arg Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 88
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<213> human

<400> 88

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Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Phe Thr Leu Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Ser Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65                  70                  75                  80

Leu Glu Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Lys Tyr Tyr Cys
                85                  90                  95

Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe Phe Phe Asp Arg Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 89
<211> 122
<212> PRT
<213> human

<400> 89

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Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Leu Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Asn Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65                  70                  75                  80
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Leu Glu Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Lys Tyr Tyr Cys
                85                  90                  95

Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe Phe Phe Asp Arg Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<400> 90

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            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Asn Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65                  70                  75                  80

Leu Glu Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Lys Tyr Tyr Cys
                85                  90                  95

Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe Phe Phe Asp Arg Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 91
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<213> human

<400> 91

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Leu Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Asx Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Asn Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65                  70                  75                  80

Leu Glu Met Ser Ser Leu Arg Ala Glu Asp Thr Ala Lys Tyr Tyr Cys
                85                  90                  95

Val Lys Val Lys Tyr Gly Ser Arg Ser His Phe Phe Phe Asp Arg Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 92
<211> 122
<212> PRT
<213> human

<400> 92

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Ile Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Glu Tyr Tyr Cys
                85                  90                  95

Ala Asn Val Lys Tyr Gly Ser Gly Ser His Phe Trp Phe Asp Pro Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 93
<211> 122
<212> PRT
<213> human

<400> 93

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Ser Ser
            20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Ile Ser Gly Asn Gly Phe Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Glu Tyr Tyr Cys
                85                  90                  95

Thr Lys Val Lys Tyr Gly Ser Gly Ser His Phe Trp Phe Asp Pro Trp
            100                 105                 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 94

<211> 121
<212> PRT
<213> human

<400> 94

Gln Met Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Phe Met His Trp Val Arg Gln Ala Pro Gly Glu Gly Leu Glu Trp Met
35 40 45

Gly Leu Val Asn Pro Thr Asn Gly Tyr Thr Ala Tyr Ala Pro Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Gln Arg Phe Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Val Arg Ser Ser Asp Ser Ile Asp Ala Phe Asp Ile Trp Gly
100 105 110

Gln Gly Thr Met Val Ile Val Ser Ser
115 120

<210> 95
<211> 121
<212> PRT
<213> human

<400> 95

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Phe Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

```
Gly Leu Val Asn Pro Thr Asn Gly Tyr Thr Ala Tyr Ala Pro Lys Phe
    50                  55                  60

Gln Gly Arg Val Thr Met Thr Arg Gln Arg Phe Thr Ser Thr Val Tyr
65                  70                  75                  80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
                85                  90                  95

Ala Arg Val Lys Ser Ser Asp Ser Ile Asp Ala Phe Asp Ile Trp Gly
            100                 105                 110

Gln Gly Thr Met Val Ile Val Ser Ser
        115                 120
```

<210> 96
<211> 127
<212> PRT
<213> human

<400> 96

```
Gln Val Gln Val Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
            20                  25                  30

Gly Ile Cys Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35                  40                  45

Gly Trp Ile Ser Thr Tyr Asn Gly Asn Thr Asn Tyr Ala Gln Lys Leu
    50                  55                  60

Gln Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Ala Trp Pro Pro Arg Gly Ser Ser Gln Leu Asp Arg Gly Gln
            100                 105                 110

Tyr Phe Gln His Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 97
<211> 131
<212> PRT
<213> human

<400> 97

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asn Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Thr Ala Ile Ser Gly Asp Val Val Asp Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Gln Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
65 70 75 80

Leu Glu Met Lys Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Asp Tyr Gly Ala Tyr Asp Ile Leu Thr Gly Lys Leu Leu Asp
100 105 110

Tyr Tyr Gln Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr
115 120 125

Val Ser Ser
130

<210> 98
<211> 131
<212> PRT
<213> human

<400> 98

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Leu

```
            20                  25                  30

Met Tyr Phe Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Ala Tyr Tyr Asn Pro Ser
    50                  55                  60

Leu Arg Ser Arg Ala Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Leu
65                  70                  75                  80

Ser Leu Lys Leu Met Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95

Cys Ala Arg Pro Ser Ser Phe Tyr Phe Asn Gly Arg Thr Ser Tyr Tyr
            100                 105                 110

Pro Gly Glu Thr Ala Phe Glu Ile Trp Gly Gln Gly Thr Thr Val Ala
        115                 120                 125

Val Ser Ser
    130
```

<210> 99
<211> 131
<212> PRT
<213> human

<400> 99

```
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1               5                   10                  15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Val
            20                  25                  30

Met Tyr Phe Trp Ala Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Ala Tyr Tyr Asn Pro Ser
    50                  55                  60

Leu Arg Ser Arg Val Thr Met Ser Val Asp Thr Ser Lys Asn Gln Leu
65                  70                  75                  80
```

```
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95

Cys Ala Arg Pro Thr Ser Tyr Tyr Phe Ser Gly Thr Thr Ser Tyr Tyr
            100                 105                 110

Pro Gly Glu Ala Ala Phe Asp Ile Trp Gly Gln Gly Thr Thr Val Thr
        115                 120                 125

Val Ser Ser
    130
```

<210> 100
<211> 131
<212> PRT
<213> human

<400> 100

```
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1               5                   10                  15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Ala Ser Ile Ser Ser Leu
            20                  25                  30

Met Tyr Phe Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Thr Tyr Tyr Asn Pro Ser
    50                  55                  60

Leu Arg Ser Arg Val Ser Ile Ser Val Asp Thr Ser Lys Asn Gln Leu
65                  70                  75                  80

Ser Leu Arg Leu Ile Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95

Cys Ala Arg Pro Ala Ser Phe Tyr Phe Asn Gly Arg Thr Ser Tyr Tyr
            100                 105                 110

Pro Gly Glu Thr Ala Phe Glu Val Trp Gly Gln Gly Thr Thr Val Ala
        115                 120                 125

Val Ser Ser
```

130

<210> 101
<211> 131
<212> PRT
<213> human

<400> 101

Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Val
20 25 30

Met Tyr Phe Trp Gly Trp Ile Arg Gln Ser Pro Gly Lys Gly Leu Glu
35 40 45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Ala Tyr Tyr Asn Pro Ser
50 55 60

Leu Arg Ser Arg Val Thr Met Ser Val Asp Thr Ser Lys Asn Gln Leu
65 70 75 80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Pro Ser Ser Phe Tyr Phe Gly Gly Thr Thr Ser Tyr Tyr
100 105 110

Pro Gly Glu Ala Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val Thr
115 120 125

Val Ser Ser
130

<210> 102
<211> 131
<212> PRT
<213> human

<400> 102

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

```
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Leu
            20                  25                  30

Met Tyr Phe Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Ala Tyr Tyr Asn Pro Ser
    50                  55                  60

Leu Arg Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Leu
65                  70                  75                  80

Ser Leu Lys Leu Met Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95

Cys Ala Arg Pro Ser Ser Phe Tyr Phe Asn Gly Arg Thr Ser Tyr Tyr
            100                 105                 110

Pro Gly Glu Thr Ala Phe Glu Ile Trp Gly Gln Gly Thr Thr Val Ala
        115                 120                 125

Val Ser Ser
    130
```

<210> 103
<211> 124
<212> PRT
<213> human

<400> 103

```
Gln Met Gln Leu Val Gln Ser Gly Gly Val Leu Ala Glu Val Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Leu Thr Phe Asn Asn Ala
            20                  25                  30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Glu Cys Val
        35                  40                  45

Gly Arg Ile Lys Ser Lys Ile Asp Gly Gly Thr Thr Asp Tyr Ala Thr
    50                  55                  60

Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Met
65                  70                  75                  80
```

```
Val Tyr Leu Gln Met Asn Ser Leu Arg Ile Glu Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Thr Thr Arg Pro Asn Pro Trp Gln Ser Pro Ala Pro Trp Asp
            100                 105                 110

Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 104
<211> 124
<212> PRT
<213> human

<400> 104

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
            20                  25                  30

Thr Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Tyr Ile Ser Thr Asp Gly Ser Thr Ile Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Ser
65                  70                  75                  80

Leu Gln Met Ile Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Val Phe Phe Gly Gly Asn Phe Arg Ala His Trp Tyr Phe Asp
            100                 105                 110

Leu Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 105
<211> 124
<212> PRT
<213> human

<400> 105

```
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Arg Pro Gly Gly
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
            20                  25                  30

Thr Leu Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Tyr Ile Ser Thr Asp Gly Ser Thr Ile Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Ser
65                  70                  75                  80

Leu Gln Met Ile Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Ala Arg Val Phe Phe Gly Gly Asn Phe Arg Ala His Trp Tyr Phe Asp
            100                 105                 110

Leu Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 106
<211> 118
<212> PRT
<213> human

<400> 106

```
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Gly Lys Pro Gly Ala
1               5                  10                  15

Ser Val Lys Val Ser Cys Gly Ala Ser Gly Tyr Ser Phe Thr Ala Tyr
            20                  25                  30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Gln Trp Met
        35                  40                  45

Gly Trp Ile Thr Pro Asp Asn Gly Arg Thr Asn Tyr Ala Gln Gln Phe
    50                  55                  60
```

```
Gln Arg Arg Ile Thr Leu Thr Ser Asp Thr Ser Ile Asn Thr Val Tyr
65                  70                  75                  80

Leu Glu Met Lys Ser Leu Lys Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Val Arg Ser Gly Trp Ser Gln Pro Leu Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser
        115
```

<210> 107
<211> 120
<212> PRT
<213> human

<400> 107

```
Gln Val Gln Leu Val Glu Ser Gly Gly Val Val Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20                  25                  30

Ala Met His Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Leu Ile Ser Trp Asp Ala Ile Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Thr Ser Arg Asp Asn Lys Lys Asn Phe Leu Tyr
65                  70                  75                  80

Leu Gln Met Asp Ser Leu Thr Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
                85                  90                  95

Gly Lys Asp Gln Gly Gly Arg Phe Arg Leu Val Asp Tyr Trp Gly Gln
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

<210> 108

<211> 107
<212> PRT
<213> human

<400> 108

Glu Ile Val Met Thr Gln Ser Pro Ala Ala Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Ser
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Val Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Arg
100 105

<210> 109
<211> 107
<212> PRT
<213> human

<400> 109

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

```
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Ile
                85                  90                  95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 110
<211> 107
<212> PRT
<213> human

<400> 110

```
Glu Ile Val Met Thr Gln Phe Pro Ala Thr Leu Ser Ala Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Thr Ile Asn Asn Asp
            20                  25                  30

Val Ala Trp Tyr Gln Gln Arg Pro Gly Gln Gly Pro Arg Leu Leu Ile
        35                  40                  45

Phe Gly Thr Ser Thr Arg Ala Pro Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Ser Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Thr Tyr Trp Pro Gly
                85                  90                  95

Thr Phe Gly Pro Gly Thr Arg Val Asp Phe Arg
            100                 105
```

<210> 111
<211> 107
<212> PRT
<213> human

<400> 111

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15
```

```
Glu Arg Ala Ser Leu Ser Cys Arg Ala Ser Gln Asn Ile Arg Ser Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Ser Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Ser Gly Leu Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Lys Trp Pro Leu
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Arg
            100                 105
```

<210> 112
<211> 107
<212> PRT
<213> human

<400> 112

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Thr Thr Thr Leu Ser Cys Arg Ala Ser His Ser Val Thr Ser Asp
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Ala Thr Ser Thr Arg Ala Ala Gly Val Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr His Cys Gln Gln Tyr Asn Lys Trp Pro Val
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Asp Leu Arg
```

100 105

<210> 113
<211> 107
<212> PRT
<213> human

<400> 113

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Gly Gln Ser Val Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

His Ala Ala Ser Thr Arg Ala Thr Gly Ala Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Asp Lys Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
100 105

<210> 114
<211> 107
<212> PRT
<213> human

<400> 114

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Trp Ala Ser Gln Ser Val Ser Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

```
His Ala Ala Ser Thr Arg Ala Thr Gly Ala Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Asn Lys Trp Pro Pro
                85                  90                  95

Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
            100                 105
```

<210> 115
<211> 107
<212> PRT
<213> human

<400> 115

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Gly Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Leu
                85                  90                  95

Ala Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 116
<211> 107
<212> PRT
<213> human

<400> 116

```
Glu Ile Val Met Thr Gln Ser Leu Ala Thr Leu Ser Ala Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Gly Gly
    50                  55                  60

Ser Glu Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr His Asn Trp Pro Pro
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 117
<211> 107
<212> PRT
<213> human

<400> 117

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Leu
```

```
                85                  90                  95

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100                 105
```

<210> 118
<211> 107
<212> PRT
<213> human

<400> 118

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Arg Val Thr Leu Ser Cys Gly Ala Ser Gln Ser Val Ser Ser Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Met
        35                  40                  45

Ser Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Asn Ala Trp Pro Leu
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 119
<211> 107
<212> PRT
<213> human

<400> 119

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20                  25                  30
```

```
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Ile
                85                  90                  95

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100                 105
```

<210> 120
<211> 107
<212> PRT
<213> human

<400> 120

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15

Asp Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Asn
            20                  25                  30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ser Ser Thr Arg Ala Thr Gly Ile Pro Ala Thr Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro His
                85                  90                  95

Ala Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 121
<211> 107

<212> PRT
<213> human

<400> 121

Glu Ile Val Met Thr Gln Ser Pro Ala Ala Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Ser
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Arg
100 105

<210> 122
<211> 107
<212> PRT
<213> human

<400> 122

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser

65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 123
<211> 107
<212> PRT
<213> human

<400> 123

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Asn
85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

<210> 124
<211> 107
<212> PRT
<213> human

<400> 124

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Glu
1 5 10 15

```
Gln Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Met
        35                  40                  45

Tyr Asp Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Met Ser Gly Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Asn Trp Pro Ser
                85                  90                  95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 125
<211> 107
<212> PRT
<213> human

<400> 125

```
Glu Ile Val Met Thr Gln Ser Pro Ala Ala Leu Ser Val Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Ser
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Ala Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Ile
                85                  90                  95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Arg
            100                 105
```

<210> 126
<211> 107
<212> PRT
<213> human

<400> 126

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Thr Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 127
<211> 107
<212> PRT
<213> human

<400> 127

Glu Ile Val Met Thr Gln Ser Pro Val Ser Leu Pro Leu Ser Pro Gly
1 5 10 15

Glu Arg Val Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Gly Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Phe Asn Ala Ser Thr Arg Ala Thr Gly Ile Ser Asp Arg Phe Ser Gly

50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ala Ser Leu Gln Pro
65 70 75 80

Asp Asp Phe Ala Val Tyr Ser Cys Gln Gln Tyr Asn Asp Trp Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Arg
100 105

<210> 128
<211> 107
<212> PRT
<213> human

<400> 128

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

His Ala Ala Ser Thr Arg Ala Thr Gly Ala Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Asn Glu Trp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
100 105

<210> 129
<211> 107
<212> PRT
<213> human

<400> 129

```
Asp Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Glu
1               5                   10                  15

Ala Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Asn
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Thr Ser Leu Gln Ser
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Asn Trp Pro Ile
                85                  90                  95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 130
<211> 107
<212> PRT
<213> human

<400> 130

```
Asp Ile Gln Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Ser
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Gln Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Ser Tyr Ser Gly
                85                  90                  95
```

```
Pro Phe Gly Leu Gly Thr Lys Val Glu Ile Lys
            100                 105


<210>  131
<211>  104
<212>  PRT
<213>  human

<400>  131

Asp Ile Gln Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
1               5                   10                  15


Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Asp Ile Lys Thr Trp
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45


Tyr Asp Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80


Asp Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Tyr Tyr Phe Gly
                85                  90                  95


Gln Gly Thr Lys Leu Glu Ile Lys
            100


<210>  132
<211>  108
<212>  PRT
<213>  human

<400>  132

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1               5                   10                  15


Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20                  25                  30


Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
```

35 40 45

Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Thr
85 90 95

Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 133
<211> 109
<212> PRT
<213> human

<400> 133

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Leu Pro
85 90 95

Arg Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 134
<211> 109
<212> PRT

<213> human

<400> 134

```
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Lys
            20                  25                  30

Phe Leu Ala Trp Tyr Gln Gln Lys Arg Gly Gln Pro Pro Arg Leu Leu
        35                  40                  45

Ile Tyr Gly Ala Ser Asn Thr Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Leu Tyr Tyr Cys Gln His Tyr Gly Ser Ser Pro
                85                  90                  95

Gly Val Thr Phe Gly Gln Gly Thr Arg Leu Asp Val Lys
            100                 105
```

<210> 135
<211> 109
<212> PRT
<213> human

<400> 135

```
Glu Ile Val Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
            20                  25                  30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35                  40                  45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80
```

```
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
                85                  90                  95

Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 136
<211> 106
<212> PRT
<213> human

<400> 136

```
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ile Ile Ser Tyr Leu
            20                  25                  30

Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
        35                  40                  45

Ser Thr Ser Thr Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
    50                  55                  60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu
65                  70                  75                  80

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Gly Ser Pro Phe Thr
                85                  90                  95

Phe Gly Pro Gly Thr Lys Val Glu Phe Lys
            100                 105
```

<210> 137
<211> 108
<212> PRT
<213> human

<400> 137

```
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Phe Gly Asn Asn
```

```
            20                  25                  30

Asn Leu Ala Trp Tyr Gln Gln Arg Leu Gly Gln Ala Pro Arg Leu Leu
        35                  40                  45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Ala Ile Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Arg Pro Pro
                85                  90                  95

Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 138
<211> 113
<212> PRT
<213> human

<400> 138

```
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
            20                  25                  30

Ser Asn Asn Lys Asn Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
    50                  55                  60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
            100                 105                 110
```

Lys

<210> 139
<211> 107
<212> PRT
<213> human

<400> 139

Glu Ile Val Met Thr Gln Ser Pro Ala Ser Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Asn
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Asn Thr Arg Ala Thr Asp Phe Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Leu Gln Ser
65 70 75 80

Glu Asp Ser Ala Val Tyr Tyr Cys Gln Gln Tyr His Asp Trp Pro Gln
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Phe Lys
100 105

<210> 140
<211> 113
<212> PRT
<213> human

<400> 140

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ser Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Leu Asn Cys Lys Ser Ser Gln Asn Val Leu Tyr Ser
20 25 30

Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

```
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50                  55                  60

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Ile Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 141
<211> 107
<212> PRT
<213> human

<400> 141

```
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Gly Val Ser Ser Tyr
            20                  25                  30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Val Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Asn
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 142
<211> 107
<212> PRT
<213> human

<400> 142

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 143
<211> 107
<212> PRT
<213> human

<400> 143

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

```
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65                  70                  75                  80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
                85                  90                  95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105
```

<210> 144
<211> 113
<212> PRT
<213> human

<400> 144

```
Asp Ile Met Met Thr Gln Ser Pro Glu Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Tyr Cys Lys Ser Ser Gln Thr Ile Leu Ser Ser
            20                  25                  30

Arg Asn Asn Gln Lys Tyr Leu Ala Trp Tyr Gln Gln Lys Ala Gly His
        35                  40                  45

Pro Pro Lys Leu Leu Ile Tyr Asx Ala Ser Ser Arg Glu Ser Gly Val
    50                  55                  60

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Tyr Thr Thr Pro Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 145
<211> 107
<212> PRT
<213> human

<400> 145

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Ser Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Val Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln His Tyr Lys Asn Tyr Pro Leu
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 146
<211> 125
<212> PRT
<213> human

<400> 146

Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val His Pro
1 5 10 15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Gly
20 25 30

Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ser Ser Ile Ser Gly Ser Gly Asp Thr Ile Tyr Tyr Ala Asp
50 55 60

Ser Val Arg Gly Arg Phe Thr Ile Ser Lys Asp Ser Ser Arg Asn Thr
65 70 75 80

```
Leu Phe Leu Gln Leu Asn Ser Leu Arg Val Asp Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Gly Ser Ile Phe Gly Thr Ala Lys Val Tyr Gly Val
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Ala Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 147
<211> 125
<212> PRT
<213> human

<400> 147

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val His Pro
1               5                   10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Gly
            20                  25                  30

Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ser Ser Ile Ser Gly Ser Gly Asp Thr Ile Tyr Tyr Ala Asp
    50                  55                  60

Ser Val Arg Gly Arg Phe Thr Ile Ser Lys Asp Ser Ser Arg Asn Thr
65                  70                  75                  80

Leu Phe Leu Gln Leu Asn Ser Leu Arg Val Asp Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Gly Ser Ile Phe Gly Thr Ala Lys Val Tyr Gly Val
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 148
<211> 125
<212> PRT
<213> human

<400> 148

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val His Pro
1               5                   10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Gly
            20                  25                  30

Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ser Ser Ile Ser Gly Ser Gly Asp Thr Ile Tyr Tyr Ala Asp
    50                  55                  60

Ser Val Arg Gly Arg Phe Thr Ile Ser Lys Asp Ser Ser Arg Asn Thr
65                  70                  75                  80

Leu Phe Leu Gln Leu Asn Ser Leu Arg Val Asp Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Gly Ser Ile Phe Gly Thr Ala Lys Val Tyr Gly Val
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125
```

<210> 149
<211> 125
<212> PRT
<213> human

<400> 149

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                   10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Ser
            20                  25                  30

Ser Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ser Gly Ile Ser Gly Ser Ser Gly Ser Thr His Tyr Ala Asp
    50                  55                  60

Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Thr
```

65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Lys Asp Gly Tyr Tyr Gly Ser Gly Leu Phe Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 150
<211> 125
<212> PRT
<213> human

<400> 150

Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1 5 10 15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Thr
20 25 30

Ser Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ser Gly Ile Ser Gly Asn Gly Gly Arg Ile Tyr Tyr Ala Asp
50 55 60

Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Thr
65 70 75 80

Leu Tyr Leu Gln Met Asp Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Lys Asp Gly Tyr Tyr Gly Ser Gly Val Phe Tyr Gly Met
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 151
<211> 125
<212> PRT

<213> human

<400> 151

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                  10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Thr
            20                  25                  30

Ser Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ser Gly Ile Ser Gly Asn Gly Gly Arg Ile Tyr Tyr Ala Asp
    50                  55                  60

Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Thr
65                  70                  75                  80

Leu Tyr Leu Gln Met Asp Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Asp Gly Tyr Tyr Gly Ser Gly Val Phe Tyr Gly Met
            100                 105                 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120                 125
```

<210> 152
<211> 125
<212> PRT
<213> human

<400> 152

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                  10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Ser
            20                  25                  30

Ser Tyr Gly Met Ser Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ala Gly Ile Thr Gly Asn Ser Gly Lys Ile Tyr Tyr Ala Asp
    50                  55                  60
```

```
Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Thr
65                  70                  75                  80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Asp Gly Tyr Tyr Gly Ser Gly Ser Phe Tyr Gly Ile
            100                 105                 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120                 125
```

<210> 153
<211> 125
<212> PRT
<213> human

<400> 153

```
Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                   10                  15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe Ser
            20                  25                  30

Ser Tyr Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ser Gly Leu Ser Gly Ser Ser Gly Arg Ile Tyr Tyr Ala Asp
    50                  55                  60

Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Thr
65                  70                  75                  80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Asp Gly Tyr Tyr Gly Ser Gly Leu Leu Tyr Gly Ile
            100                 105                 110

Asp Val Trp Gly Gln Gly Thr Thr Val Ala Val Ser Ser
        115                 120                 125
```

<210> 154
<211> 125
<212> PRT
<213> human

<400> 154

Leu Glu Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
1 5 10 15

Gly Gly Ser Gln Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
20 25 30

Asn Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ala Tyr Ile Leu Tyr Asp Gly Ser Lys Lys Tyr Tyr Val Asp
50 55 60

Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Gln Asn Thr
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Val Lys Asp Gly Leu Leu Ala Gly Gly Tyr Glu Gly Gly Phe
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 155
<211> 125
<212> PRT
<213> human

<400> 155

Leu Glu Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
1 5 10 15

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Val Arg Phe Ser
20 25 30

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

```
Trp Val Ala Ser Ile Ser Ser Asp Ala Thr Lys Lys Asn Tyr Ala Asp
    50                  55                  60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
65                  70                  75                  80

Leu His Leu Gln Met Val Thr Leu Arg Pro Glu Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Thr Asp Ile Leu Gly Pro Ala Ile Glu Phe Gly Leu
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Pro
        115                 120                 125
```

<210> 156
<211> 125
<212> PRT
<213> human

<400> 156

```
Leu Glu Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
1               5                   10                  15

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Val Arg Phe Ser
            20                  25                  30

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45

Trp Val Ala Ser Ile Ser Ser Asp Ala Thr Lys Lys Asn Tyr Ala Asp
    50                  55                  60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
65                  70                  75                  80

Leu His Leu Gln Met Val Thr Leu Arg Pro Glu Asp Thr Ala Val Tyr
                85                  90                  95

Tyr Cys Ala Lys Thr Asp Ile Leu Gly Pro Ala Ile Glu Phe Gly Leu
            100                 105                 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Pro
```

115 120 125

<210> 157
<211> 125
<212> PRT
<213> human

<400> 157

Leu Glu Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro
1 5 10 15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Val Thr Phe Arg
20 25 30

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ala Phe Val Ser Ser Asp Gly Asn Lys Lys Asn Tyr Ala Asp
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
65 70 75 80

Leu Tyr Leu Gln Met Ile Ser Leu Arg Arg Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Lys Thr Asp Ile Leu Gly Pro Ala Ile Glu Phe Gly Leu
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Pro
115 120 125

<210> 158
<211> 125
<212> PRT
<213> human

<400> 158

Leu Glu Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
1 5 10 15

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Arg Leu Ser Phe Thr
20 25 30

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ala Ser Ile Ser Ser Asp Gly Asn Lys Lys Asn Tyr Ala Asp
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
65 70 75 80

Leu Ser Leu Gln Met Ile Gly Leu Arg Arg Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Lys Thr Asp Ile Leu Gly Pro Ala Ile Glu Phe Gly Leu
100 105 110

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Pro
115 120 125

<210> 159
<211> 125
<212> PRT
<213> human

<400> 159

Leu Glu Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
1 5 10 15

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Leu Thr Phe Ser
20 25 30

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ala Phe Ile Ser Tyr Asp Gly Asn Asn Lys Lys Tyr Ala Asp
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg
65 70 75 80

Leu Phe Leu Gln Met Val Ser Leu Arg Arg Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Lys Thr Asp Ile Leu Gly Pro Ala Ile Glu Tyr Gly Leu
100 105 110

```
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120                 125


<210>  160
<211>  125
<212>  PRT
<213>  human

<400>  160

Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                   10                  15


Gly Gly Ser Leu Arg Ile Ser Cys Ala Gly Ser Gly Phe Arg Phe Gly
            20                  25                  30


Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
        35                  40                  45


Trp Ile Ser Gly Ile Val Gly Thr Gly Gly Asp Thr Lys Tyr Gly Asp
    50                  55                  60


Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Val
65                  70                  75                  80


Val Tyr Leu Gln Met Asn Gly Leu Arg Val Glu Asp Thr Ala Val Tyr
                85                  90                  95


Tyr Cys Ala Lys Ser Ala Tyr Tyr Val Ser Gly Ser Tyr Tyr Gly Phe
            100                 105                 110


Asp Tyr Trp Gly Gln Gly Thr Arg Val Thr Val Ser Ser
        115                 120                 125


<210>  161
<211>  125
<212>  PRT
<213>  human

<400>  161

Leu Glu Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
1               5                   10                  15


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Ser Ser
```

20 25 30

Ala Tyr Ala Leu Ser Trp Val Arg Gln Ile Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ser Ala Ile Ser Gly Gly Gly Gly Ser Thr Tyr Tyr Ala Asp
50 55 60

Ser Val Glu Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Gly Glu Asp Thr Ala Ala Tyr
85 90 95

Tyr Cys Ala Thr Gly Asn Tyr Gly Arg Asn Val Gln Asn Trp Tyr Phe
100 105 110

Asp Leu Trp Gly Arg Gly Thr Leu Val Thr Val Ser Pro
115 120 125

<210> 162
<211> 125
<212> PRT
<213> human

<400> 162

Leu Glu Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
1 5 10 15

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

Arg Tyr Asp Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Val Ala Leu Ile Ser Tyr Asp Gly Met Tyr Lys Ser Ser Ala Asp
50 55 60

Ser Val Lys Gly Arg Phe Thr Val Ser Arg Glu Asn Ser Arg Asn Thr
65 70 75 80

Val Phe Leu Gln Met Ser Gly Leu Arg Pro Glu Asp Thr Ala Val Tyr
85 90 95

```
Phe Cys Ala Lys Ser Asp Val Met Ala Arg Ala Arg Gly Ser Gly Phe
            100                 105                 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120                 125
```

<210> 163
<211> 110
<212> PRT
<213> human

<400> 163

```
Ser Arg Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Thr Ile Gly Ser Gln
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
                85                  90                  95

Asp His Val Val Phe Gly Gly Gly Thr Arg Leu Thr Val Leu
            100                 105                 110
```

<210> 164
<211> 112
<212> PRT
<213> human

<400> 164

```
Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Ser Ile Ala Cys Gly Gly Asn Asn Ile Gly Ser Lys
            20                  25                  30
```

```
Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Thr Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Val Ser Arg Ala Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ala Ser Ser
                85                  90                  95

Asp Gln Pro Tyr Val Val Phe Gly Gly Gly Thr Arg Leu Thr Val Leu
            100                 105                 110
```

<210> 165
<211> 110
<212> PRT
<213> human

<400> 165

```
Ser Arg Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Arg Thr Asp Gly Gln Ile Thr Cys Gly Glu Asp Lys Ile Glu Ser Lys
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
                85                  90                  95

His His Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 166
<211> 110
<212> PRT
<213> human

<400> 166

Ser Arg Leu Pro Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1 5 10 15

Gly Gln Thr Ala Thr Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
20 25 30

Ser Val His Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
35 40 45

Val Tyr Asp Asp Asn Glu Arg Pro Ser Gly Ile Pro Glu Arg Ile Ser
50 55 60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Gly
65 70 75 80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
85 90 95

Asp His Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 167
<211> 112
<212> PRT
<213> human

<400> 167

Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1 5 10 15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asp Ser Ile Gly Ser Lys
20 25 30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
35 40 45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Asx Arg Phe Ser
50 55 60

```
Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp His Ile Thr Ser
                85                  90                  95

Asp His Pro Asn Val Ile Phe Gly Gly Gly Thr Arg Leu Thr Val Leu
            100                 105                 110
```

<210> 168
<211> 110
<212> PRT
<213> human

<400> 168

```
Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Ser Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr His Cys Gln Leu Trp Asp Thr Asn Asn
                85                  90                  95

Asp His Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 169
<211> 112
<212> PRT
<213> human

<400> 169

```
Ser Arg Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Thr Val Val Pro
1               5                   10                  15
```

```
Gly Gln Thr Ala Arg Ile Ala Cys Gly Gly Asn Asn Ile Gly Ser Arg
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Leu Leu Leu
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys His Val Trp Asp Ser Ser Gly
                85                  90                  95

Asp Leu Pro Asp Val Val Phe Gly Gly Gly Ser Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 170
<211> 110
<212> PRT
<213> human

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> Xaa= encoding DNA had a "tga" stop condon in CDR1

<400> 170

```
Ser Arg Leu Pro Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Xaa Asn Asn Ile Gly Ser Lys
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val His Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80
```

```
Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
                85                  90                  95

Asp His Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 171
<211> 110
<212> PRT
<213> human

<400> 171

```
Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Lys Ile Ile Cys Gly Gly Asn Asn Ile Gly Ala Lys
            20                  25                  30

Ser Val Gln Trp Tyr Gln Gln Arg Pro Gly Gln Ala Pro Leu Met Val
        35                  40                  45

Val Tyr Asp Asp Thr Glu Arg Pro Ser Ala Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Asp Ser Ser
                85                  90                  95

Asp His Val Val Phe Gly Gly Gly Thr Lys Leu Ala Val Leu
            100                 105                 110
```

<210> 172
<211> 110
<212> PRT
<213> human

<400> 172

```
Ser Arg Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
```

```
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Ala
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
                85                  90                  95

Asp Pro Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 173
<211> 110
<212> PRT
<213> human

<400> 173

```
Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Ala Cys Gly Gly Asp Asn Ile Gly Ile Lys
            20                  25                  30

Thr Val Gln Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val His Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Leu Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Val Thr Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Gly
                85                  90                  95

Asp His Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 174
<211> 110
<212> PRT
<213> human

<400> 174

Ser Arg Gln Pro Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1 5 10 15

Gly Gln Met Ala Arg Ile Thr Cys Gly Gly Asn Asn Ile Gly Arg Gln
20 25 30

Ser Val Asn Trp Tyr Gln Gln Arg Pro Gly Gln Ala Pro Val Leu Val
35 40 45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Ala Glu Arg Phe Ser
50 55 60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Glu
65 70 75 80

Ala Gly Asp Glu Ala Glu Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
85 90 95

Asp His Val Val Phe Gly Gly Gly Thr Thr Leu Thr Val Leu
100 105 110

<210> 175
<211> 111
<212> PRT
<213> human

<400> 175

Ser Arg Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1 5 10 15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
20 25 30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
35 40 45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
50 55 60

```
Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
                85                  90                  95

Asp His Leu Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 176
<211> 112
<212> PRT
<213> human

<400> 176

```
Ser Arg Leu Pro Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Ser Ile Ala Cys Gly Gly Asp Asn Ile Gly Ser Lys
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Ala Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Asn Asp Arg Pro Ser Gly Thr Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Val Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Phe Cys Gln Val Trp Asp Ser Thr Ser
                85                  90                  95

Asp His Pro Tyr Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 177
<211> 110
<212> PRT
<213> human

<400> 177

```
Ser Arg Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
```

```
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Ser Ile Gly Ser Lys
            20                  25                  30

Ser Val His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Thr Thr Ala Thr Leu Thr Ile Ser Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Thr Gly
                85                  90                  95

Asp Arg Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
            100                 105                 110
```

<210> 178
<211> 111
<212> PRT
<213> human

<400> 178

```
Ser Arg Gln Ala Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro
1               5                   10                  15

Gly Gln Thr Ala Arg Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
            20                  25                  30

Ser Ala His Trp Tyr Gln Gln Arg Pro Gly Gln Ala Pro Leu Leu Val
        35                  40                  45

Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
    50                  55                  60

Gly Ser Asn Ser Gly Asn Ala Ala Thr Leu Thr Ile Thr Arg Val Glu
65                  70                  75                  80

Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Gly Asp Thr Gly
                85                  90                  95
```

Asp His Pro Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 179
<211> 20
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 179
agggcctgag ctcgcccgtc 20

<210> 180
<211> 21
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 180
gacttctacc cgggagcygt g 21

<210> 181
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 181
gacgaccggc taccaagagg acagtctaga cagtctgtgc tgactcag 48

<210> 182
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 182
gacgaccggc taccaagagg acagtctaga cagtctgtgy tgacgcag 48

<210> 183
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 183
gacgaccggc taccaagagg acagtctaga cagtctgtcg tgacgcag 48

<210> 184
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 184
gacgaccggc taccaagagg acagtctaga cagtctgccc tgactcag 48

<210> 185
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 185
gacgaccggc taccaagagg acagtctaga tcctatgwgc tgactcag 48

<210> 186
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 186
gacgaccggc taccaagagg acagtctaga tcctatgagc tgacacag 48

<210> 187
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 187
gacgaccggc taccaagagg acagtctaga tcttctgagc tgactcag 48

<210> 188

<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 188
gacgaccggc taccaagagg acagtctaga tcctatgagc tgatgcag 48

<210> 189
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 189
gacgaccggc taccaagagg acagtctaga cagcytgtgc tgactcaa 48

<210> 190
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 190
gacgaccggc taccaagagg acagtctaga cagsctgtgc tgactcag 48

<210> 191
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 191
gacgaccggc taccaagagg acagtctaga aattttatgc tgactcag 48

<210> 192
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 192
gacgaccggc taccaagagg acagtctaga cagrctgtgg tgactcag 48

<210> 193
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 193
gacgaccggc taccaagagg acagtctaga cagactgtgg tgacccag 48

<210> 194
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 194
gacgaccggc taccaagagg acagtctaga cwgcctgtgc tgactcag 48

<210> 195
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 195
gacgaccggc taccaagagg acagtctaga caggcagggc tgactcag 48

<210> 196
<211> 56
<212> DNA
<213> artificial sequence

<220>
<223> nested oligonucleotide

<400> 196
gacgaccggc taccaagagg agtgctcgag ctcaggccct gatgggtgac ttcgct 56

<210> 197
<211> 60
<212> DNA
<213> artificial sequence

<220>
<223> nested oligonucleotide

<400> 197
gacgaccggc taccaagagg acagaagagc tcctgggtag aagtcactka tsagrcacag 60

<210> 198
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 198
gacgaccggc taccaagagg agtg 24

<210> 199
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 199
gacgaccggc taccaagagg acag 24

<210> 200
<211> 25
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 200
ctaactccat ggtgaccctg ggatg 25

<210> 201
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 201
caactggctc ctcggtgact ctag 24

<210> 202
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 202
cagtgagcag ttaacatctg gagg 24

<210> 203
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 203
gacgtggccg ttggaagagg agtgctcgag gtccaactgc agcagyc 47

<210> 204
<211> 23
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 204
catggagtta gtttgggcag cag 23

<210> 205
<211> 22
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 205
caacgttgca ggtgacggtc tc 22

<210> 206
<211> 23
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 206
cgaggagcca gttgtatctc cac 23

<210> 207

<211> 22
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 207
ccacattgca ggtgatggac tg 22

<210> 208
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 208
gacgaccggc taccaagagg agtgtctaga gaaawtgtgc tcacccagtc tc 52

<210> 209
<211> 22
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 209
ctgctcactg gatggtggga ag 22

<210> 210
<211> 23
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 210
gagtggcctc acaggtatag ctg 23

<210> 211
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 211
gacgaccggc taccaagagg agtgtctaga gacattgtga tgwcacagtc tc 52

<210> 212
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 212
gacgaccggc taccaagagg agtgtctaga gatgttktga tgacccarac tc 52

<210> 213
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 213
gacgaccggc taccaagagg agtgtctaga gacattgtga tgackcaggc tg 52

<210> 214
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 214
gacgaccggc taccaagagg agtgtctaga gacawtgtgc tgacccartc tc 52

<210> 215
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 215
gacgaccggc taccaagagg agtgtctaga gaaawtgtgc tcacccagtc tc 52

<210> 216
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 216
gacgaccggc taccaagagg agtgtctaga gacatccaga tgacmcagtc tc 52

<210> 217
<211> 53
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 217
gacgaccggc taccaagagg agtgtctaga gatatccaga tgacacagac tac 53

<210> 218
<211> 50
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 218
gacgaccggc taccaagagg agtgtctaga gacattgtsa tgacccagtc 50

<210> 219
<211> 52
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 219
gacgaccggc taccaagagg agtgtctaga caaattgttc tcacccagtc tc 52

<210> 220
<211> 62
<212> DNA
<213> artificial sequence

<220>
<223> primer

<220>
<221> misc_feature
<222> (62)..(62)
<223> n= G2'OMe[A(ps)U(ps)U(ps)](propyl)

<400> 220
gacgaccggc taccaagagg agtgtccgga tgttaactgc tcactggatg gtgggaagat 60

gn 62

<210> 221
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 221
gacgaccggc taccaagagg agtg 24

<210> 222
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 222
gacgtggccg ttggaagagg agtgctcgag gtgcagcttc agsagtc 47

<210> 223
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 223
gacgtggccg ttggaagagg agtgctcgag gtgcagctga agsagtc 47

<210> 224
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 224
gacgtggccg ttggaagagg agtgctcgag gtycagctgc arcartc 47

<210> 225
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 225
gacgtggccg ttggaagagg agtgctcgag gtccaactgc agcagyc 47

<210> 226
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 226
gacgtggccg ttggaagagg agtgctcgag gttcagctgc agcagtc 47

<210> 227
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 227
gacgtggccg ttggaagagg agtgctcgag gtgaagctgg tggagwc 47

<210> 228
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 228
gacgtggccg ttggaagagg agtgctcgag gtgaagcttc tggagtc 47

<210> 229
<211> 47
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 229
gacgtggccg ttggaagagg agtgctcgag gtgmagctgg tggagtc 47

<210> 230
<211> 59

<212> DNA
<213> artificial sequence

<220>
<223> nested oligonucleotide

<220>
<221> misc_feature
<222> (59)..(59)
<223> n= A2'OMe[U(ps)C(ps)A(ps)](propyl)

<400> 230
gacgtggccg ttggaagagg agtgcctagg gttaccatgg agttagtttg ggcagcagn 59

<210> 231
<211> 59
<212> DNA
<213> artificial sequence

<220>
<223> nested oligonucleotide

<220>
<221> misc_feature
<222> (59)..(59)
<223> n=A2'OMe[C(ps)A(ps)U(ps)](propyl)

<400> 231
gacgtggccg ttggaagagg agtgcctagg gtcatcgagg agccagttgt atctccacn 59

<210> 232
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 232
gacgtggccg ttggaagagg agtg 24

<210> 233
<211> 113
<212> PRT
<213> mouse

<400> 233

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

```
Cys Lys Ala Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
            20                  25                  30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
        35                  40                  45

Gly Ser Gly Ser Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr
    50                  55                  60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65                  70                  75                  80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Phe
                85                  90                  95

Thr Phe Ser Leu Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
            100                 105                 110

Ser
```

<210> 234
<211> 113
<212> PRT
<213> mouse

<400> 234

```
Gln Ser Gly Ala Glu Leu Ile Lys Pro Gly Ala Ser Val Lys Ile Ser
1               5                   10                  15

Cys Arg Thr Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
            20                  25                  30

Lys Arg Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
        35                  40                  45

Gly Thr Gly Asp Thr Asn Phe Asn Glu Lys Phe Arg Gly Lys Ala Thr
    50                  55                  60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65                  70                  75                  80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Phe
                85                  90                  95
```

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 235
<211> 113
<212> PRT
<213> mouse

<400> 235

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

Cys Lys Ala Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Ile
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Ser Gly Asp Thr Asn Phe Asn Glu Arg Phe Lys Asp Lys Ala Thr
50 55 60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65 70 75 80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr
85 90 95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 236
<211> 113
<212> PRT
<213> mouse

<400> 236

Gln Ser Gly Ala Glu Val Met Lys Pro Gly Ala Ser Val Lys Ile Ser

1 5 10 15

Cys Lys Ala Ser Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Ser Gly Asp Thr Asn Val Asn Glu Lys Phe Lys Gly Lys Ala Thr
50 55 60

Phe Thr Ala Tyr Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65 70 75 80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr
85 90 95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 237
<211> 113
<212> PRT
<213> mouse

<400> 237

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

Cys Lys Ala Ser Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Ser Gly Asp Thr Asn Val Asn Glu Lys Phe Lys Gly Lys Ala Thr
50 55 60

Phe Leu Ala Tyr Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65 70 75 80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr
85 90 95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 238
<211> 113
<212> PRT
<213> mouse

<400> 238

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

Cys Lys Ala Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Ser Gly Asp Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr
50 55 60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65 70 75 80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr
85 90 95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 239
<211> 113
<212> PRT
<213> mouse

<400> 239

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

Cys Lys Ala Ser Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Thr Gly Asp Thr Asn Phe Asn Glu Lys Phe Arg Gly Lys Ala Thr
50 55 60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65 70 75 80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Phe
85 90 95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 240
<211> 113
<212> PRT
<213> mouse

<400> 240

Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1 5 10 15

Cys Lys Ala Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
20 25 30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro
35 40 45

Gly Ser Gly Ser Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr
50 55 60

```
Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65                  70                  75                  80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Phe
                85                  90                  95

Thr Phe Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
            100                 105                 110

Ser
```

<210> 241
<211> 109
<212> PRT
<213> mouse

<400> 241

```
Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser
1               5                   10                  15

Cys Lys Ala Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val
            20                  25                  30

Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Asp Ile Leu Pro
        35                  40                  45

Gly Ser Gly Asp Thr Asn Val Asn Glu Lys Phe Lys Gly Lys Ala Thr
    50                  55                  60

Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser
65                  70                  75                  80

Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr
                85                  90                  95

Thr Leu Ser Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
            100                 105
```

<210> 242
<211> 110
<212> PRT
<213> mouse

<400> 242

```
Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala
1               5                   10                  15

Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val Lys Gln Arg
            20                  25                  30

Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser Gly
        35                  40                  45

Asp Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr Ala
    50                  55                  60

Tyr Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser
65                  70                  75                  80

Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr Thr Phe Ser
                85                  90                  95

Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 243
<211> 110
<212> PRT
<213> mouse

<400> 243

```
Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala
1               5                   10                  15

Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val Lys Gln Arg
            20                  25                  30

Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser Gly
        35                  40                  45

Asp Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr Ala
    50                  55                  60

Ser Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser
65                  70                  75                  80

Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr Thr Phe Ser
```

```
                85                  90                  95

Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110


<210>  244
<211>  110
<212>  PRT
<213>  mouse

<400>  244

Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala
1               5                   10                  15


Ser Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val Lys Gln Arg
            20                  25                  30


Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser Gly
        35                  40                  45


Asp Ala Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr Ala
    50                  55                  60


Tyr Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser
65                  70                  75                  80


Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr Thr Phe Ser
                85                  90                  95


Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110


<210>  245
<211>  110
<212>  PRT
<213>  mouse

<400>  245

Ala Glu Val Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala
1               5                   10                  15


Ser Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val Lys Gln Arg
            20                  25                  30
```

```
Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser Gly
        35                  40                  45

Asp Thr Asn Val Ser Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr Ala
    50                  55                  60

Tyr Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser
65                  70                  75                  80

Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr Thr Phe Ser
                85                  90                  95

Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 246
<211> 110
<212> PRT
<213> mouse

<400> 246

```
Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala
1               5                   10                  15

Thr Asp Tyr Thr Phe Ser Asn Tyr Trp Ile Glu Trp Val Lys Gln Arg
            20                  25                  30

Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser Gly
        35                  40                  45

Asp Thr Asn Phe Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr Ala
    50                  55                  60

Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser
65                  70                  75                  80

Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ala Tyr Tyr Thr Leu Ser
                85                  90                  95

Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 247
<211> 112

<212> PRT
<213> mouse

<400> 247

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

Ala Thr Gly Tyr Thr Phe Asn Thr Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Thr
35 40 45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
85 90 95

Trp Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
100 105 110

<210> 248
<211> 112
<212> PRT
<213> mouse

<400> 248

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

Ala Thr Gly Tyr Thr Phe Asn Thr Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Thr
35 40 45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr

65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
85 90 95

Trp Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
100 105 110

<210> 249
<211> 112
<212> PRT
<213> mouse

<400> 249

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

Ala Thr Gly Tyr Thr Phe Asn Thr Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Thr
35 40 45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
85 90 95

Trp Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
100 105 110

<210> 250
<211> 112
<212> PRT
<213> mouse

<400> 250

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

```
Ala Thr Gly Tyr Thr Phe Asn Thr Tyr Trp Ile Glu Trp Val Lys Gln
            20                  25                  30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Thr
        35                  40                  45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
    50                  55                  60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
                85                  90                  95

Trp Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 251
<211> 112
<212> PRT
<213> mouse

<400> 251

```
Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1               5                   10                  15

Ala Thr Gly Tyr Thr Phe Asn Thr Tyr Trp Ile Glu Trp Val Lys Gln
            20                  25                  30

Arg Pro Gly Arg Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Thr
        35                  40                  45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
    50                  55                  60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
                85                  90                  95

Trp Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 252
<211> 112
<212> PRT
<213> mouse

<400> 252

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

Ala Thr Gly Tyr Thr Leu Ser Ser Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
35 40 45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Ile Ala Tyr Met Gln Leu Ser Ser Leu Thr
65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
85 90 95

Trp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
100 105 110

<210> 253
<211> 112
<212> PRT
<213> mouse

<400> 253

Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1 5 10 15

Ala Thr Gly Tyr Thr Leu Ser Ser Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
35 40 45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr

```
    50                  55                  60

Ala Asp Thr Ser Ser Asn Ile Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
                85                  90                  95

Trp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 254
<211> 112
<212> PRT
<213> mouse

<400> 254

```
Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1               5                   10                  15

Ala Thr Gly Tyr Thr Leu Ser Ser Tyr Trp Ile Glu Trp Val Lys Gln
            20                  25                  30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
        35                  40                  45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
    50                  55                  60

Ala Asp Thr Ser Ser Asn Ile Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
                85                  90                  95

Trp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 255
<211> 112
<212> PRT
<213> mouse

<400> 255

```
Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1               5                   10                  15

Ala Thr Gly Tyr Thr Leu Ser Ser Tyr Trp Ile Glu Trp Val Lys Gln
            20                  25                  30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
        35                  40                  45

Asp Asn Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
    50                  55                  60

Ala Asp Thr Ser Ser Asn Ile Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gln Val Gly Leu Arg
                85                  90                  95

Trp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
            100                 105                 110
```

<210> 256
<211> 119
<212> PRT
<213> mouse

<400> 256

```
Leu Val Asp Pro Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
1               5                   10                  15

Leu Ser Cys Glu Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Leu Ser
            20                  25                  30

Trp Val Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile
        35                  40                  45

Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Thr Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Leu
                85                  90                  95
```

```
Arg Asn Gly Arg Pro Tyr Tyr Tyr Ala Leu Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Ser Val Ser Val Ser Ser
        115
```

<210> 257
<211> 115
<212> PRT
<213> mouse

<400> 257

```
Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Glu
1               5                   10                  15

Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Met Thr Trp Val Arg Gln
            20                  25                  30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Ala
        35                  40                  45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg Phe Thr
    50                  55                  60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65                  70                  75                  80

Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Ser Arg Asn Gly Arg
                85                  90                  95

Pro Tyr Tyr Tyr Ala Leu Asp Tyr Trp Gly Gln Gly Thr Ser Val Ser
            100                 105                 110

Val Ser Ser
        115
```

<210> 258
<211> 115
<212> PRT
<213> mouse

<400> 258

```
Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Glu
```

```
1               5                   10                  15

Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Leu Ser Trp Val Arg Gln
            20                  25                  30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Ala
        35                  40                  45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg Phe Thr
    50                  55                  60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65                  70                  75                  80

Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Ser Arg Asn Gly Arg
                85                  90                  95

Pro Tyr Tyr Tyr Ala Leu Asp Tyr Trp Gly Gln Gly Thr Ser Val Ser
            100                 105                 110

Val Ser Ser
        115
```

<210> 259
<211> 115
<212> PRT
<213> mouse

<400> 259

```
Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Glu
1               5                   10                  15

Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Leu Ser Trp Val Arg Gln
            20                  25                  30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Ala
        35                  40                  45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg Phe Thr
    50                  55                  60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65                  70                  75                  80
```

```
Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Leu Arg Asn Gly Arg
                85                  90                  95

Pro Tyr Tyr Tyr Ala Leu Asp Tyr Trp Gly Gln Gly Thr Ser Val Ser
            100                 105                 110

Val Ser Ser
        115
```

<210> 260
<211> 113
<212> PRT
<213> mouse

<400> 260

```
Gly Thr Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Arg
1               5                   10                  15

Ala Thr Gly Tyr Thr Phe Ser Asp Tyr Trp Ile Glu Trp Val Lys Gln
            20                  25                  30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
        35                  40                  45

Gly Asp Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
    50                  55                  60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Leu Trp Leu Arg
                85                  90                  95

Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
            100                 105                 110

Ser
```

<210> 261
<211> 113
<212> PRT
<213> mouse

<400> 261

Gly Thr Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Arg
1 5 10 15

Ala Thr Gly Tyr Thr Phe Ser Asp Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
35 40 45

Gly Asp Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Leu Trp Leu Arg
85 90 95

Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 262
<211> 113
<212> PRT
<213> mouse

<400> 262

Gly Thr Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Arg
1 5 10 15

Ala Thr Gly Tyr Thr Phe Ser Asp Tyr Trp Ile Glu Trp Val Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
35 40 45

Gly Asp Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

```
Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Leu Trp Leu Arg
                85                  90                  95

Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
            100                 105                 110

Ser
```

<210> 263
<211> 118
<212> PRT
<213> mouse

<400> 263

```
Gln Leu Gln Gln Ser Gly Thr Glu Leu Met Lys Pro Gly Ala Ser Val
1               5                   10                  15

Lys Ile Ser Cys Arg Ala Thr Gly Tyr Thr Phe Ser Asp Tyr Trp Ile
            20                  25                  30

Glu Trp Val Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu
        35                  40                  45

Ile Leu Pro Gly Ser Gly Asp Thr Asn Tyr Asn Glu Lys Phe Lys Gly
    50                  55                  60

Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln
65                  70                  75                  80

Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg
                85                  90                  95

Gly Leu Trp Leu Arg Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Thr Leu Thr Val Ser Ser
        115
```

<210> 264
<211> 113

<212> PRT
<213> mouse

<400> 264

Gly Thr Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Arg
1 5 10 15

Ser Thr Gly Tyr Thr Phe Ser Ser Tyr Trp Ile Glu Trp Tyr Lys Gln
20 25 30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
35 40 45

Gly Asp Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Phe Thr
50 55 60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65 70 75 80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Leu Trp Leu Arg
85 90 95

Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 265
<211> 115
<212> PRT
<213> mouse

<400> 265

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
1 5 10 15

Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Leu Ser Trp Val Arg Gln
20 25 30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Gly
35 40 45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg Phe Thr

50 55 60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65 70 75 80

Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Ala Arg His Gly Arg
85 90 95

Pro Tyr Tyr Tyr Leu Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr
100 105 110

Val Ser Ser
115

<210> 266
<211> 115
<212> PRT
<213> mouse

<400> 266

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
1 5 10 15

Thr Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Leu Ser Trp Val Arg Gln
20 25 30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Gly
35 40 45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg Phe Thr
50 55 60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65 70 75 80

Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Ala Arg His Gly Arg
85 90 95

Pro Tyr Tyr Tyr Leu Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr
100 105 110

Val Ser Ser
115

<210> 267
<211> 115
<212> PRT
<213> mouse

<400> 267

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
1 5 10 15

Ser Ser Gly Phe Thr Phe Thr Asp Tyr Tyr Met Ser Trp Val Arg Gln
20 25 30

Pro Pro Gly Lys Ala Leu Glu Trp Leu Gly Phe Ile Arg Asn Lys Ala
35 40 45

Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser Ala Lys Gly Arg Phe Thr
50 55 60

Ile Ser Arg Asp Asp Ser Gln Ser Ile Leu Tyr Leu Gln Met Asn Thr
65 70 75 80

Leu Arg Ala Glu Asp Ser Ala Thr Tyr Tyr Cys Ala Arg His Gly Arg
85 90 95

Pro Tyr Tyr Tyr Leu Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr
100 105 110

Val Ser Ser
115

<210> 268
<211> 117
<212> PRT
<213> mouse

<400> 268

His Gln Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys
1 5 10 15

Ile Ser Cys Lys Ser Thr Gly Tyr Thr Phe Ser Ser Tyr Trp Ile Glu
20 25 30

Trp Ile Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile
35 40 45

```
Leu Pro Gly Ser Gly Phe Thr Asn Tyr Asn Glu Asn Phe Lys Gly Lys
    50                  55                  60

Val Thr Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Phe
65                  70                  75                  80

Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Thr Thr
                85                  90                  95

Thr Val Val Val Arg Asp Tyr Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Leu Thr Val Ser Ser
        115
```

<210> 269
<211> 113
<212> PRT
<213> mouse

<400> 269

```
Gly Ala Glu Leu Met Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys
1               5                   10                  15

Ala Thr Gly Tyr Thr Phe Ser Ser Tyr Trp Ile Glu Trp Ile Lys Gln
            20                  25                  30

Arg Pro Gly His Gly Leu Glu Trp Ile Gly Glu Ile Leu Pro Gly Ser
        35                  40                  45

Gly Phe Thr Asn Tyr Asn Glu Asn Phe Lys Gly Lys Val Thr Phe Ser
    50                  55                  60

Ala Asp Thr Ser Ser Asn Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr
65                  70                  75                  80

Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Thr Thr Thr Val Val Val
                85                  90                  95

Arg Asp Tyr Leu Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
            100                 105                 110
```

Ser

<210> 270
<211> 109
<212> PRT
<213> mouse

<400> 270

Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1 5 10 15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser
20 25 30

Tyr Met His Trp Tyr Gln Gln Lys Ser Ser Thr Ser Pro Lys Leu Trp
35 40 45

Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Asn Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65 70 75 80

Ala Glu Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly Ser Gly Tyr Pro
85 90 95

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
100 105

<210> 271
<211> 109
<212> PRT
<213> mouse

<400> 271

Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1 5 10 15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser
20 25 30

Tyr Met His Trp Tyr Gln Gln Lys Ser Ser Thr Ser Pro Lys Leu Trp
35 40 45

```
Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Asn Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65                  70                  75                  80

Ala Glu Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly Ser Gly Tyr Pro
                85                  90                  95

Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105
```

<210> 272
<211> 109
<212> PRT
<213> mouse

<400> 272

```
Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1               5                   10                  15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Asn
            20                  25                  30

Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp
        35                  40                  45

Ile Tyr Asp Thr Ser Lys Leu Thr Ser Gly Val Pro Ala Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65                  70                  75                  80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Asn Arg Asn Pro
                85                  90                  95

Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105
```

<210> 273
<211> 109
<212> PRT
<213> mouse

<400> 273

Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1 5 10 15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Asn Ser Ser Val Ser
20 25 30

Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp
35 40 45

Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65 70 75 80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Asn Arg Asn Pro
85 90 95

Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 274
<211> 109
<212> PRT
<213> mouse

<400> 274

Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1 5 10 15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser
20 25 30

Tyr Met His Trp Tyr Gln Gln Lys Ser Ser Thr Ser Pro Lys Leu Trp
35 40 45

Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Asn Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65 70 75 80

```
Ala Glu Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly Ser Gly Tyr Pro
                85                  90                  95

Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105


<210>  275
<211>  109
<212>  PRT
<213>  mouse

<400>  275

Ser Arg Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser
1               5                   10                  15

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser
            20                  25                  30

Tyr Met His Trp Tyr Gln Gln Lys Ser Ser Thr Ser Pro Lys Leu Trp
        35                  40                  45

Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser
    50                  55                  60

Gly Ser Gly Ser Gly Asn Thr Tyr Ser Leu Thr Ile Ser Ser Met Glu
65                  70                  75                  80

Ala Glu Asp Val Ala Thr Tyr Tyr Cys Phe Gln Gly Ser Gly Tyr Pro
                85                  90                  95

Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105


<210>  276
<211>  110
<212>  PRT
<213>  mouse

<400>  276

Ser Arg Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Asn
            20                  25                  30
```

```
Ser Tyr Leu Ala Trp Phe Gln Gln Lys Gln Gly Lys Ser Pro Gln Leu
        35                  40                  45

Leu Val Tyr Asp Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His His Tyr Gly Ile
                85                  90                  95

Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
            100                 105                 110
```

<210> 277
<211> 110
<212> PRT
<213> mouse

<400> 277

```
Ser Arg Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser
1               5                   10                  15

Val Gly Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Asn
            20                  25                  30

Ser Tyr Leu Ala Trp Phe Gln Gln Lys Gln Gly Lys Ser Pro Gln Leu
        35                  40                  45

Leu Val Tyr Asp Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe
    50                  55                  60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn Ser Leu
65                  70                  75                  80

Gln Pro Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His His Tyr Gly Ile
                85                  90                  95

Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
            100                 105                 110
```

<210> 278

<211> 110
<212> PRT
<213> mouse

<400> 278

Ser Arg Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser
1 5 10 15

Val Gly Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Asn
20 25 30

Ser Tyr Leu Ala Trp Phe Gln Gln Lys Gln Gly Lys Ser Pro Gln Leu
35 40 45

Leu Val Tyr Asp Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His His Tyr Gly Ile
85 90 95

Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
100 105 110

<210> 279
<211> 26
<212> DNA
<213> artificial sequence

<220>
<223> restriction oligonucleotide

<400> 279
tccggggacc tgtacaccac gagcag 26

<210> 280
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 280
gtgctggccg ttggaagagg agtgctcgag caggtkcagc tggtgcag 48

<210> 281
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 281
gtgctggccg ttggaagagg agtgctcgag caggtccagc ttgtgcag 48

<210> 282
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 282
gtgctggccg ttggaagagg agtgctcgag saggtccagc tggtacag 48

<210> 283
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 283
gtgctggccg ttggaagagg agtgctcgag caratgcagc tggtgcag 48

<210> 284
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 284
gtgctggccg ttggaagagg agtgctcgag cagatcacct tgaaggag 48

<210> 285
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 285
gtgctggccg ttggaagagg agtgctcgag caggtcacct tgarggag 48

<210> 286
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 286
gtgctggccg ttggaagagg agtgctcgag gargtgcagc tggtggag 48

<210> 287
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 287
gtgctggccg ttggaagagg agtgctcgag caggtgcagc tggtggag 48

<210> 288
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 288
gtgctggccg ttggaagagg agtgctcgag gaggtgcagc tgttggag 48

<210> 289
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 289
gtgctggccg ttggaagagg agtgctcgag cagstgcagc tgcaggag 48

<210> 290
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 290
gtgctggccg ttggaagagg agtgctcgag caggtgcagc tacagcag 48

<210> 291
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 291
gtgctggccg ttggaagagg agtgctcgag gargtgcagc tggtgcag 48

<210> 292
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 292
gtgctggccg ttggaagagg agtgctcgag caggtacagc tgcagcag 48

<210> 293
<211> 48
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 293
gtgctggccg ttggaagagg agtgctcgag caggtscagc tggtgcaa 48

<210> 294
<211> 51
<212> DNA
<213> artificial sequence

<220>
<223> extension oligonucleotide

<400> 294
gtgctggccg ttggaagagg agtgcctgta caggtccccg gaggcatcct c 51

<210> 295
<211> 24

<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 295
gtgctggccg ttggaagagg agtg 24

<210> 296
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 296
ctcgagcagg tkcagctggt gcag 24

<210> 297
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 297
ctcgagcagg tccagcttgt gcag 24

<210> 298
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 298
ctcgagsagg tccagctggt acag 24

<210> 299
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 299
ctcgagcara tgcagctggt gcag 24

<210> 300
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 300
ctcgagcaga tcaccttgaa ggag 24

<210> 301
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 301
ctcgagcagg tcaccttgar ggag 24

<210> 302
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 302
ctcgaggarg tgcagctggt ggag 24

<210> 303
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 303
ctcgagcagg tgcagctggt ggag 24

<210> 304
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 304
ctcgaggagg tgcagctgtt ggag 24

<210> 305
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 305
ctcgagcags tgcagctgca ggag 24

<210> 306
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 306
ctcgagcagg tgcagctaca gcag 24

<210> 307
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 307
ctcgaggarg tgcagctggt gcag 24

<210> 308
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 308
ctcgagcagg tacagctgca gcag 24

<210> 309
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> primer

<400> 309
ctcgagcagg tscagctggt gcaa 24